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EXAMINER

NGUYEN, STEVEN H D

ART UNIT

PAPER NUMBER

2665

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Please find below and/or attached an Office communication concerning this application or proceeding.

PD

Office Action Summary

Application No.

09/437,764

Applicant(s)

YUN ET AL.

Examiner

Steven HD Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6-7, 10-13, 15-16, 19-27, 29-30, 33-36, 38-39 and 42-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Schorman (USP 5960350).

Regarding claims 1 and 10, Schorman discloses (Fig 1-3 and col. 1, lines 5 to col. 7, lines 40) a system for determining an antennae array weight set corresponding to a subscriber unit (SU) for cellular communications between the SU and a first base station (BS) comprises the step of transmitting a plurality of test pilot downlink signals from the first base station to the SU wherein each test pilot downlink signal processed with a different weight set “phase and gain” than the other test pilot downlinks signals, each test pilot downlink signal comprising a CDMA pilot signal not normally used by the first base station (Fig 2, Ref 72 for generating a beacon “pilot” signal and Ref 74 used to control phase and gain of pilot signals or data signal wherein each beacon has a different phase and gain; the beacon signal is offset from the pilot signal of the base station wherein each base station has a pilot signal which is differently from the pilot signal of the other base station based on its offset; Therefore, the beacon signal is not always use by the first base station; See col. 5, lines 42-58; this beacon only use for determining the phase and gain); receiving a report signal for at least one of the pilot downlink signals (Fig 2, Ref 78 for

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receiving a beacon “pilot” quality report from a mobile) and selecting a weight set from the plurality of weight sets based on the received report signal (Fig 2, Ref 82 is used to select a weight set from the received reports signal).

Regarding claims 2-4 and 11-13, Schorman discloses transmitting a CDMA pilot downlink signal from the first BS to the SU wherein the CDMA pilot downlink signal includes a first identifier identifying the first base station; the test pilot downlink signals includes a second identifier that is different from the first identifier, the second identifier identifying; the second base station wherein the distance between the base stations is sufficient enough to assure the communication between the second base station and subscriber unit will not interference the first pilot signal transmitted by the first base station (Col. 5, lines 42-58, each pilot signal has an unique PN code for a base station, each base station is identified with a unique code in order to prevent the interference between the communication between the second base and mobiles and the transmitted pilot signal of the first base station).

Regarding claims 6-7 and 15-16, Schorman discloses the subscriber monitoring each of a plurality of CDMA pilot downlink signals in a set of CDMA pilot downlink signals and said test pilot signals selected from the set of CDMA pilot down link signals (col. 7, lines 5-18) and inherently discloses the pilot signals includes in one of candidate, Neighbor and remaining set in CDMA standard.

Regarding claim 19, Schorman discloses (Fig 1-3 and col. 1, lines 5 to col. 7, lines 40) a system comprising a receiving circuit for coupling to an array antenna of a base station, to receive a report signal which corresponds to at least one of test pilot signal, the at least one test pilot signal comprising a CDMA pilot signal is not normally used by the base station (Fig 2, Ref

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24 is array antenna, ref 78 is used to receive a report signal which associated with a downlink beacon; the beacon signal is offset from the pilot signal of the base station wherein each base station has a pilot signal which is differently from the pilot signal of the other base station based on its offset; Therefore, the beacon signal is not always use by the first base station; See col. 5, lines 42-58; this beacon only use for determining the phase and gain); transmit weight processor for coupling to the receiving circuit for determining a weight set must be applied to a downlink signal based on the report signal (Fig 2, Ref 82 and 76 and 70).

Regarding claims 20-23 and 43-46, Schorman discloses a transmit circuit, coupled with the transmit weight processor, to apply the determined weight set to beamform a downlink signal which is a data and a CDMA pilot signal used by the base station and a pilot signal generator for generating a plurality of test pilot signals (Fig 2, Ref 62, Ref 70 is data signal and ref 72 is for generating pilot signals).

Regarding claims 24, 33 and 42, Schorman discloses (Fig 1-3 and col. 1, lines 5 to col. 7, lines 40) a system for determining an antennae array weight set corresponding to a subscriber unit (SU) for cellular communications between the SU and a first base station (BS) comprises the step of transmitting a plurality of test pilot downlink signals from the first base station to the SU, each test pilot downlink signal processed with a different weight set "phase and gain" than the other test pilot downlinks signals, each test pilot downlink signal comprising a pilot signal typically used for at least one of controlling power and base station handoff that is not normally used by the first BS (Fig 2, Ref 72 for generating a beacon "pilot" signal and Ref 74 used to control phase and gain "power" of pilot signals or data signal wherein each beacon has a different phase and gain; the beacon signal is offset from the pilot signal of the base station

wherein each base station has a pilot signal which is differently from the pilot signal of the other base station based on its offset; Therefore, the beacon signal is not always use by the first base station; See col. 5, lines 42-58; this beacon only use for determining the phase and gain); receiving a report signal for at least one of the pilot downlink signals (Fig 2, Ref 78 for receiving a beacon “pilot” quality repot from a mobile) and selecting a weight set from the plurality of weight sets based on the received report signal (Fig 2, Ref 82 is used to select a weight set from the received reports signal).

Regarding claims 25-27 and 34-36, these claims are similar to claims 2-4. Therefore, these claims are rejected under similar rationale.

Regarding claims 29-30 and 38-39, these claims are similar to claims 6-7. Therefore, these claims are rejected under similar rationale.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 8-9, 14, 17-18, 28, 31-32, 37 and 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schorman (USP 5960350).

Regarding claims 5, 8-9, 14, 17-18, 28, 31-32, 37 and 40-41, Schorman discloses the subscriber unit receiving a plurality of pilot signal from a plurality of base stations, measuring the signal strength of a plurality of pilot signal in order to report the measured signals to the

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serving base station (Col. 5, lines 42-58). Schorman does not disclose a serving base station using the report signal for initiating a handoff request and transmitting an estimate of the weight set to be used after handoff. However, the examiner takes official notice that a method and apparatus for receiving a CDMA pilot signal from the second base station and report signal indicating the signal strength of the CDMA pilot downlink signal from the second BS and determining whether to hand of the SU to the second BS based on the signal strengths reported for the CDMA pilot signal transmitted by the first BS, the one test pilot signal including the second identifier transmitted by the first BS and CDMA pilot signal transmitted by the second BS and transmitting an estimate of the weight set to be used after handoff to the second base station. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to apply a method and apparatus for initiating a handoff between the base stations base on a received report measurement pilot signal strength into Schorman's method and apparatus. The motivation would have been prevent a drop call.

Response to Arguments

5. Applicant's arguments filed 5/5/2003 have been fully considered but they are not persuasive.

In response to pages 18-20, the applicant states that Schorman does not disclose the recitation "test pilot downlink signals which comprise a CDMA pilot signal not normally used by the first BS". In reply, Schorman discloses the base station which uses a test pilot signal which has a different PN offset with its assigned pilot signal to transmit these signals to the mobile unit. The test pilot signal is not normally use by the base station wherein each base station has a pilot

signal which is different from the other base station by PN offset. Therefore, Schorman clearly teaches the claimed invention.

In response to pages 20-21, the applicant requests the examiner provides the prior arts for the well known feature such as determining a handoff or handover based on the feed back report measurement of signal strength of the pilot signals of the first base station and second base station and transferring the weight after the handoff. In reply, Jung (USP 6049716) discloses a method for performing a handoff from the first to second base stations based on the received of PSMM from a mobile (See Fig 6). Jeong (USP 6195552) discloses a method for performing a handoff from the first to second base stations based on the received of PSMM from a mobile (See Fig 6-8). Sunay (USP 5940743) discloses a method for performing a handoff from the first to second base stations based on the received of PSMM from a mobile and forwarding the values after the handoff (See col. 5, lines 5-40). Chambert (USP 5499387) discloses a method for performing a handoff from the first to second base stations based on the received of signal strength from a mobile and forwarding the values after the handoff (Col. 3, lines 35-53). Blakeney (USP 5267261) discloses a method for performing a handoff from the first to second base stations based on the received of PSMM from a mobile (See abstract). Bevan (USP 6415149) discloses a method for performing a handoff from the first to second base stations based on the received of PSMM from a mobile (Col. 5, lines 50 to col. 6, lines 60). Since, Schorman suggests that the mobile reports the measured pilot signal strength of the current and neighbor base stations "second base station" to current base station. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to apply a method and apparatus for initiating a handoff between the base stations base on a received report

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measurement pilot signal strength and forwarding the values after handoff as disclosed by the method and apparatus of Jung, Jeong, Sunay, Chanmber, Blakeney, Bevan into Schorman's method and apparatus. The motivation would have been prevent a drop call.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (703) 308-8848. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on (703) 308-6602. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

A handwritten signature in black ink, appearing to read 'Steven HD Nguyen', with a long horizontal line extending to the right.

Steven HD Nguyen
Primary Examiner
Art Unit 2665
July 7, 2003